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# Monitoring and Evaluation Practices and Performance of the Energy Projects in Rwanda: A Case of Electricity Access Rollout Programme (EARP)

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**Abstract**

**Purpose:** This research aims to appraise contribution of M&E practices to energy projects performance, especially in the Electricity Access Rollout Programme Rwanda (EARP).It examined especially the contribution of planning for M&E, project baseline Surveys implementation, and Monitoring and Evaluation information system usage to EARP performance. The research involved the Program theory, Result-based theory, and the theory of change.

**Methodology:** For the research design, a descriptive survey helped, and the target population was 15 project staff of the completed EARP in the project management unit. During this study, the researcher used a census, the entire population was considered as a sample since its number was limited. Qualitative and quantitative approaches were applied to gather data, and through interview guide and questionnaire, the researcher gathered primary data while secondary data were gathered from various official reports. After collecting data, the researcher used SPSS V.23 for their process and analysis. The content analysis techniques served to analyze data from interviews, and reports. The frequencies, percentages, standard deviation, and means known as descriptive statistics helped the researcher in defining the data, Pearson correlational and regression statistics were used to set up relationships concerning the variables and the significance levels. The research results were finally represented using graphs and tables.

**Findings:** According to the research findings, the majority of participants agreed that M&E planning contributed to the performance of EARP (mean=4.31, Std =0.78). Furthermore, they indicated that M&E planning and EARP performance were positively correlated with a Pearson correlation coefficient of r=0.632, and p-value= 0.01 <0.05 significance level. Also, a great number of participants agreed that baseline implementation contributed to EARP performance (mean=4.37, Std =0.813), and a strong positive correlation was established between baseline implementation and EARP performance, the Pearson correlation coefficient was r=0.832 and the p-value=0.00<0.05 the significance level. Lastly the mean and the standard deviation for the M&E Information System were (mean= 4.08, and Std= 1.04) respectively, most participants agree that M&E IS contributed to EARP performance. Nevertheless, the standard deviation was greater than one implying a large spread of responses from the mean, thus no consensus among respondents. The Pearson coefficient was r=0.170 with a p-value =0.544>005 and this value implied that no significant correlation existed between the M&E Information System usage and EARP performance as it was greater than the significance level. A regression model of the predictors against the performance of EARP yielded R-square value of 0.731, hence the three components under study could explain 73.1% of variation in EARP project performance with F=9.128, p-value=0.003<0.05. M&E Planning (β=0.228, P value= 0.04), Baseline Survey Implementation (β=0.437, P value= 0.020), M&E Information System Usage (β=-0.54, P value= 0.74) respectively.

**Unique Contribution to Theory, Practice and Policy:** The researcher recommends those involved in project management especially energy projects or programs to adopt a robust, comprehensive, and user-friendliness M&E information system and promote M&E practices. This research may benefit different project management teams as it may provide them with the fundamental information to effectively track and measure projects. Furthermore, it may benefit several energy sector stakeholders to optimize the process of project development and promote performance for energy projects.

**Keywords:** *Monitoring, Evaluation, Monitoring and Evaluation practices, Project Performance*

**JEL code of Classification:** *H43, L72, L25, M15, O13, O22, O32, R58*

## INTRODUCTION

Monitoring and evaluation (M&E) is an indispensable aspect of managing any project or program. It is a critical phase that elucidates whether or not a project is meeting its goals and detects project parts that require adjustment. M&E frequently gathers and assess information to control whether the progress made is related to the pre-defined goals or objectives, and to pinpoint the unplanned effects resulting from a program or project operations. It is also a considerable element of the life cycle of a project, and best practice of management. With vigorous M&E constituents, programs and projects tend to stay on track. According to UNDP (2016), it would be very difficult to evaluate how future efforts might be enhanced, check work progress and performance, and decide whether they can be claimed, without effective M&E. Karanja &Yusuf (2018) added that M&E methods ensure that the results of a project can be assessed at the levels of impact, outputs, outcomes, processes, and costs, creating a basis for accountability and decision making.

Globally, for most nations, the practices of M&E are well-designed and not rigid. Such nations are, for instance, the USA, Canada, Sri Lanka, Russia and China. Several other areas, for instance, Central Asia and Africa, have lagged behind in the effective integration of the practices of M&E. Nevertheless, There are regular monitoring activities in India and Malaysia, fluctuating from comprehensive national evaluation systems to basic monitoring of particular programs in lots of Mideast regions, the practices of Monitoring &Evaluation usage has made notable progress in the countries of Africa to the south of the Sahara desert (Princeton University, 2016); a small number of countries exhibit remarkable enhancements, South Africa is one of these countries.

In recent years the Government of Rwanda (GoR) has made efforts in Monitoring and Evaluation; through the Ministry of Finance and Economic Planning (MINECOFIN), it has developed M&E Planning, guidelines, and tools for State Owned corporations, in order to promote a results-oriented approach to the management of state-owned corporations, thereby enhancing accountability, transparency and effectiveness in the planning and achievement of state-owned corporations' business goals (MINECOFIN, 2019). The Rwandan Electricity Access Roll-out program (EARP) is one of the most ambitious electrification intervention in Sub-Saharian Africa established by the GoR under Energy Water and Sanitation Authority later REG within its subsidiary Energy Development Corporation Ltd (EDCL). It has been implemented to accomplish the purpose assigned to EDPRS (Economic Development Poverty Reduction Strategy). EDPRS Strategy was launched in 2007 by the GoR to provide a medium-term framework for achieving the country's long-term development aspirations as specified in Rwanda's Vision 2020, the seven-year GoR program, the Millennium Development Goals (World Bank, 2018), and energy sector was one of the pillars of the mentioned strategy. At that time the main issue for the energy sector was a very low number of the population who had access to electricity (Only 6% had access, despite the high density of the population).To alleviate that situation, in March 2009, the EARP phase one was launched. The purpose was to insist on giving electricity to health facilities, social infrastructure, schools, and administrative offices. Hence electricity penetration had to rise from 130,000(6%) in 2009 to 350,000 households (16 %) by the end of 2012. Phase two of the EARP program took place from 2013 to 2017.

According to Belgian Development Agency (2016), the initiation of EARP attracted many development projects. The GoR, several development partners contributed to the EARP (WB, NL, BADEA, OFID, SAUDI FUND, JICA) to achieve its targets. The World Bank was a

leading donor and the main contributor to the program. The focus was the electricity grid extension with the construction of new transmission and distribution lines connected to the national electricity network, strengthening of the existing network and in several other activities aiming at increasing the sustainability of the electrification program. The grid construction and customer connections works were implemented by EARP under the arrangements namely:-Turn -key: also known as Engineering, Procurement, Construction (EPC) contract. They are project big contracts under which materials and technical services are all provided by the contractor.-Labor contract: they are big contracts for line construction under which materials are supplied by EARP and the contractor provides technical services. EARP provides materials for site connection based on derived quantities following detailed site survey and mapping.-Utilization of REG/EARP crews for small works that is connecting households and priority public institutions to already existing medium and low voltage infrastructure.

As investments in energy projects are quite high as the development of energy infrastructures, it needs hard work by financiers, researchers, customers, builders, owners, and engineers to attempt to cause the minimum possible risk (Guido,et al., 2016). EARP was responsible for overall supervision of the above engineering projects, to ensure that project milestones and final deliverables are achieved within agreed timelines and performed to the right quality. EARP experienced several important challenges identified during the implementation of its projects some of which could have discouraged M&E practices among others: -Almost every major works/supply contracts went through addendums, either for the time extension or for further adjustment of scope, in coping with current situation and priorities, thereby consequentially pushing the completion date of the projects further,- the slow impact of electrification on economic development as many energy projects ,the positive impacts of energy access are often seen many years after a project has been completed. Therefore, reliable M&E on energy often needs to extend beyond the project lifecycle, - The low cost usage during the first years after electricity access, - the low availability of generation capacity, - the utility sustainability especially through operations and maintenance of networks and customer services. Despite the above mentioned challenges, EARP has not given up on its main objective of providing electricity to all Rwandan population. This research tends to ascertain how M&E practices contributed to the performance of Rwanda's energy projects, especially electricity distribution by means of EARP.

**Statement of the Problem**

Energy is a critical production sector that can catalyze broader economic growth and contribute significantly to facilitating the achievement of the country's social-economic transformation agenda (MININFRA, 2017). It is a key pillar for sustainable development. Nowadays, Energy Project performance as well as other projects, is poorer in developing countries than in developed countries where projects perform better. As confirmed by different Studies carried out in Rwanda some projects have achieved the desired performance while others have been quoted as failed, that is they did not realize the intended performance. The World Bank (2018) consistently pointed out that although district-level development projects cost billions of taxpayers' money, most of them have been completely unable to attain their goals. The majority of them had performance problems regarding completion thus creating perplexity and ambiguity while performing project assignments due to shortage of effective M&E. Similarly several projects in the energy sector do not respect planned deadlines and costs resulting in delays and cost overruns, and even failures which leads the power companies as well the country in various losses and less profitability.

Although the government of Rwanda has established a guide for Monitoring and Evaluation, Rwandan energy sector experienced various executed projects that failed to meet their objectives. The annual report from the Office of Auditor General presented examples of delayed and abandoned contracts persisting in government organizations. The deferred contracts amounting to 210 billion while the abandoned contracts amounting to 45 billion and primarily these contracts consisted of power and water projects handled by REG/EDCL and WASAC respectively (OAG, 2017). Some of them are for instance the abandoned contract for the construction of Substations of 220 KV transmission system, Kibuye (Karongi)-Gisenyi (Rubavu)-Goma –Kigali, and delayed completion of works for lot 7 of the electrification project in Ngororero District. This contract was signed in November 2015 between Energy Development Corporation Ltd (EDCL) and Angelique International Ltd for electrification of northen. Another case is that of the project carried out by Rwanda Energy Group (REG) and Arab Bank of Economoc Development of Africa (BADEA) and the Government of Rwanda (GoR). This project started in May 20th, 2014, and the works were expected to be completed by June 8th, 2020. However the project got completed in 2022 due to different challenges, leading to project delay of two years after the initially schedule time (Akeza &Wanjiku, 2023).

However, despite several important challenges identified during the implementation of EARP projects, through EARP, Rwanda has electrified its population at one of the fastest rates in the world over the past decades from 6% in 2009 to 62.3 % in June 2021(Nyaga, et al., 2021), and generally speaking, on average electrification interventions had positive effects on a range of education, socioeconomic welfare, health, and environmental outcomes. Missing deadlines during project implementation is sometimes due to poor planning, lack of or weak M&E practices and other factors. Even though contractors are given clear targets such as the number of households to be connected and completion dates for line construction, if M&E staff do not monitor these completion targets, deadlines may not be regularly met. In this study, the researcher tries to scrutinize the contribution of planning for M&E, baseline Surveys Implementation, and Information System Usage in M&E taken as practices of Monitoring &Evaluation, to the performance of the Electricity Access Rollout Programme Rwanda (EARP).

## Research Objectives

### General Objective

This research aimed to look into the existence of any relationship between the practices of M&E and energy project performance, especially in EARP Rwanda.

### Specific Objectives

Specifically, this research directed by the objectives listed below:

i) To assess the contribution of M&E Planning to the EARP performance.
ii) To assess the contribution of Baseline Survey Implementation to the EARP performance.
iii) To examine the M&E Information System Usage contribution to the EARP performance.
iv) To evaluate the relationship between the practices of M&E and the EARP performance.

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## LITERATURE REVIEW

### Theoretical Review

### Program Theory

A program theory comprises a group of declarations that define a specific program, clarify the root cause, the way and in which situations the program influences take place, forecast the upshots of the program, and pinpoint the conditions needed to achieve the expected results. This theory is crucial to the research since it is essentially founded on the logical model or framework that is mainly determined by the indicators recognized from a baseline study. Moreover, it enlarges the importance of involvement stakeholder and the means of the project (cost) to the success of a baseline study. Hence, it highlights the significance of parameters in baseline studies (Gaibo &Mbugua, 2019).

### Theory of Change

This is an improved version of the theory of evaluation as well as the program theory component, which emerged in the 1990s. It is usually established during the stage of designing for program initiation and it is based not only on proof or evidence, which are facts, and information, that give reasons for believing, but also on beliefs that are feelings of certainty that something exists, is true, or is good, and lastly on assumptions, this is a belief or feeling that something is true or that something will happen without real proof (Jones&Rosenberg, 2018).

Theory of change is an instrument that help to establish a logical model for a project or program. This way, an illustration of exactly how the project will work is provided, that may be examined using M&E. This means, it provides a roadmap of whatever the program or project is trying to achieve. It gives the general situation of the anticipated changes, this includes changes directly related to the project and other changes that are not directly related to the project activities, but that are essential to attain the long-term goal. Simplistically, a theory of change may help to ensure that the project, program or intervention implementers or receivers clearly understand the reason of being there and targets as the figure below shows:

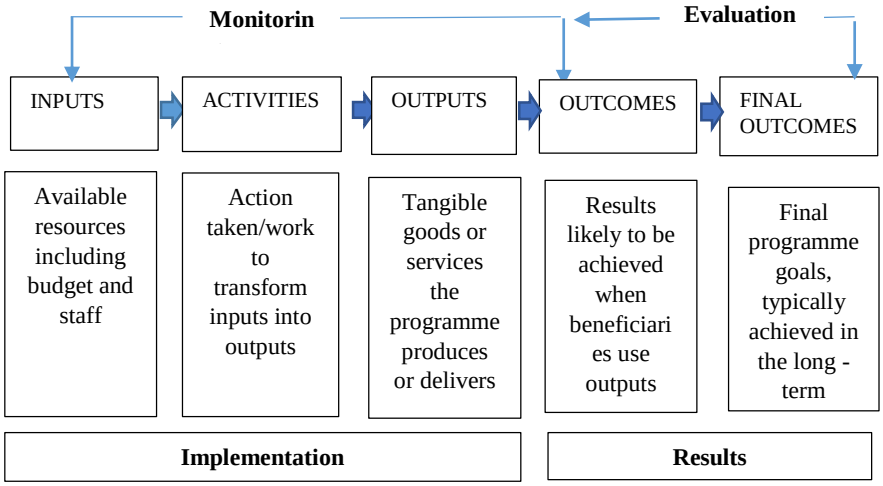


*Figure 1: Result Chain*

*Source: International Labor Organization (2017)*

From the results chain above, the monitoring system would constantly control: the use of the invested resources by the intervention or program, the activities execution within the scheduled and goods and services delivery. A performance evaluation identifies inputs-outputs as well as direct results at a certain point of time. An impact evaluation confirm whether the detected changes are due to the intervention or program and whether they are produced by the intervention only.

**Result-based Management Theory**

The RBM theory has existed for a long time. The theory of results-based management originated in Australia in the mid-1980s; this theory gained importance in the 1990s under the leadership of the OECD. It had gotten extreme popularity in the group of donors, particularly starting in March 2005, when the worldwide countries agreed to modify the manner donors and developing nations cooperate, to improve the quality and impact of aid. This was summarized in what is called the Paris Declaration on Effective Aid (ILO, 2020)

The RBM model as demonstrated by Hwang & Lim (2013), put a special attention on monitoring as a vital undertaking in the program or project life; as an ongoing procedure of regularly systematized assessment built on stakeholder participation, replication, critical analysis , consolidation of information, analyzing ultimate achievement (using indicators) and making periodical report. Evaluations helps to enhance performance by documenting acquired knowledge and results from the previous projects.

**Empirical Review**

**Effects of M&E Planning on Projects Performance**

The M&E plan helps to organize in a systematic way the collection of particular data for appraisal, outlining tasks and responsibilities of project stakeholders. It guarantees a regular gathering, process, and analysis of pertinent progress and information related to performance to enable evidence based decision making in real time. During M&E planning according to Frankel &Gage (2016) timetables of data gathering and distinct role and responsibilities attribution for M&E are made. Data gathering schedule and well-defined roles and duties were specified, and this help to establish the stage of project performance. The M&E plan should evidently document: what data is to be collected and when; how data are collected and analyses data; who reports information; what reports are produced and the frequency of reporting. M&E plan clearly states M&E activities such as: schedule of site visits, staff responsible, data to be collected, source of data, collection methods, responsibilities, collection methods, frequency of collection, and actions to take to correct identified deviations from the planned schedule, detailed budget specifying the estimated cost of all M&E activities.

A study was conducted by Rumenya & Kisimbii (2020) to assess how Monitoring and Evaluation systems affected Non-Governemental Organisations projects performance. He specifically focused on Education Projects in Mombasa County, Kenya. In this M&E was defined in terms of organizational structures and human capacity for M&E, Work Planning for M&E activities and M&E Plan. The researcher adopted a descriptive research design and a through a questionnaire, he distributed to 22 Non-Governemental Organisations M&E staff, project officers and managers for data collection. The data were processed and analyzed helped by Excel and SPSS. From the findings a significant positive correlation was established between Human resource capacity for M&E, organizational structures, M&E plan with( $r=0.412$, $r=0.639$, $r=0.273$ respectively, and p-value$<0.05$) and educational project performance. By regression analysis the researcher concluded that all the four variables

influenced the educational project performance at 74.1% (regression model with $R^2$ = 74.1) with M&E plan β=0.816, p-value=0.000<0.05.

Nzayisenga &Wafula (2022) carried out a research to determine the influence of M&E practices and performance of NGOs in Rwanda. The research was guided specifically by 3 objectives such as the determination of M&E planning role, the degree of participation, and the M&E budgeting role to the BLF programme effectiveness or performance. He adopted a descriptive research design, and 84 respondents were taken as sample. By the use of regression analysis he found that an increment of a single value in the planning of M&E would cause a respective increase in the effectiveness of BLF programme. Similarly, an augmentation of a single unit in financial planning or budgeting of M&E would provoke a corresponding raise in the BLF programme performance. The outcome of the study disclosed that all the independent variables of M&E such as planning, budgeting and participation level of experts, influenced considerably the dependent variable such as BLF effectiveness.

To supplement this observation, findings from a research done by Ntambara & Irechukwu (2021) concerning Busanza Housing project, where the researcher sought to examine M&E tools influence on the performance of projects in Rwanda. He studied specifically the effect of M&E plan, effects of logical framework, effect of form survey on Busanza housing project performance. Using a descriptive survey design and a sample size of 94 participants. Findings from the regression analysis allowed the researcher to conclude that 75.3% of change in effectiveness or performance of the mentioned project were explained by the joint independent variables (with $R^2$= 0.753), logical framework (β =0.121, p=0.035), form survey (β =-657, p=0.000), M&E plan (β = 0.963, p=0.000), planning for M&E enabled on time delivery, and it also assisted in delivering without exceeding the planned budget.

**Effects of Baseline Survey Implementation on Project Performance**

A baseline survey analyzes and describes the original situation before an intervention, operation, or Programme implementation, on the basis of which change can be measured or appraisals made. It provides the basis for M&E, producing results at subsequent stages (usually mid-term or at the activity end) to enable outcomes and impact assessment of an operation. The information collected during the baseline study includes data on indicators especially selected to monitor the performance of project regularly. The baseline study also takes into account the future use of these indicators to examine project effectiveness and impact (Save the Children, 2016). Having a baseline against which to compare assists to appraise changes over time and whether they are related to the existence of the project.

Baseline data allows evaluators and planners to measure the outcomes and impact of a policy, program, or project. In fact, in most programs and projects in many developing countries, baseline surveys are part or parcel of the initial process in many organizations, as a sponsorship requirements or as a best standard for appropriate monitoring and evaluation. Shapiro (2017) asserted that if the status of the situation was unknown at the commencement of the project, then it would not be easy to assess the project impact.

In his research on the effect of M&E practices on the performance of county founded education projects, Wambua (2018) specifically sought to determine the level to which M&E Plan, use baseline survey , M&E staff training, involvement of stakeholders , impacted the performance of district funded education projects. He used a descriptive survey and through regression he found that the use of baseline survey and M&E staff training had significant influence on county funded projects performance. The study revealed a positive

effect of baseline survey on project management and its assistance to bring project to the right beneficiaries, a unit increase in the usage of baseline survey lead to 0.267 increase in performance of county funded education projects in Makueni County.

Furthermore, Njeru&Kirui (2022), carried out a research with objective of examining the effects of M&E practices on the performance of the projects of road construction implemented by Kenyan National Highway Authority within Nairobi City. The identification of the impacts of capacity building, performance review, and baseline survey, budget allocations were specific objectives of the research, a descriptive and explanatory was taken as research design. The target group for this study was seven road construction projects undertaken by KNHA in Nairobi City District for 2015-2019 period. The assessment of the relationship between variables was performed using correlation analysis (Pearson coefficient) and Regression analysis. The conclusion about the dependent variables was that all of them had influenced positively the effectiveness of KNHA road construction project within the Nairobi City Count, with 0.322, $p<0.05$ as the regression coefficient for baseline survey.

**Effects of M&E Information System Usage on Project Performance**

The M&E information management system mainly involves of storing information in an arranged way, supporting the analysis of project data and performance while providing an accurate image of the status and progress of the project towards the achievement of the objectives set.

A project M&E system includes the entire work performed during and/or after a project for finding, selecting, collecting, analyzing and using information. It is where all the information is gathered, from the original goals and indicators selection to the ultimate project assessment (Intrac, 2019). During monitoring and evaluation the performance of a project/programme depends deeply on an efficacious Monitoring Information System. Research conducted in both government and non-governmental organizations acknowledged that MIS and project performance are strongly related. Different intermediaries illustrate the usefulness of IS in projects when it is taken into account during project M&E. These include: technology level or type, The number of technically proficient personnel used in the Information System applied in M&E, the type of technology planned, its ease of use (user-friendliness), and its accessibility, etc (Andelson, 2018).

A research by Shema &Irechukwu (2022) on the construction projects in IPRC Gishari Rwamagana District-Rwanda to assess the effect of on Monitoring and Evaluation Practices on Performance of the mentioned Projects. The study required to identify the M&E practices effect on the performance of construction projects. As specific objectives; Information System, Baseline Survey, training for M&E staff, and planning for M&E stood for M&E practices where the researcher wanted to assess their effect on Construction Project Performance of IPRC Gishari Rwamagana District respectively. He adopted a descriptive research design where 153 participants were taken as target population and 111 as sample. The analysis and interpretation of the collected data was done via SPSS version 20.0, and the findings from regression analysis; the adjusted $R^2$ =0.571 indicated that other factors kept constant, M&E practices could explain 57.1% variation in the effectiveness of IPRC Gishari Rwamagana Construction Project. Therefore the study concluded a positive significant effect of the practices of M&E on the performance of IPRC Gishari construction project. With a multiple regression coefficient B4 = .254, with þ = .012, the influence of Information System on IPRC Gishari Rwamagana construction projects performance was positive and statistically significant. The researcher

recommends that for the effective and efficient resources utilization, the project goals achievement, it is necessary to involve of M&E practices.

A study by Nyanje & Kisimbii (2021) aimed the examination of the influence M&E practices on government-funded projects in Kwale County. The practices of M&E in this study were defined in terms M&E Plans, M&E training, baseline surveys, and information system, and the specific objectives that guided the study were to ascertain the extent to which each of those practices influenced the projects sponsored by the government in Kwale. The researcher adopted a mix of ex-post facto research design and survey .With 113 respondents as target group, the findings allowed the researcher to conclude that four variables had a positive and significant influence (Monitoring and Evaluation practices) on the projects sponsored by the government in Kwale: the adjusted regression model coefficient; $R^2$ of 0.715 ($F = 2.679$; $P = 0.003 < 0.05$. Regarding information system a positive and significant influence on county funded development projects implementation was concluded with ($\beta = 0.489$; $T = 5.171$; $p=0.000 < 0.05$).

**Critical Review and Research Gap Identification**

Various authors carried out the studies to attempt addressing M&E issues and project performance, important among others are studies conducted by Rumenya (2020), Nzayisenga (2022), Ntambara (2021), Gatimu (2021), Kihuha (2018), Wambua, (2019), Mwangi (2022), Okello (2021), Shapiro (2017) Shema (2022), Nyanje (2021), Kahura (2013), Afomachukwu (2021), and Njeru (2022). Findings from research carried out by Gatimu (2021) on M&E practices and Performance of County Maternal Health Programmes revealed a positive correlation between variables. He took planning for M&E in terms of Resources allocation for M&E, Resources mobilization budgeting, M&E work plans/M&E frameworks, M&E policy. To add to this existing knowledge and build on these findings, the current study will investigate the contribution of planning for M&E to the performance of energy projects focusing on M&E Schedule, M&E budget, M&E specification of data collection in EARP Rwanda.

The findings from studies confirmed baseline surveys positive effect to the performance of projects. This research investigates the contribution of baseline survey taken as baseline survey report, plan design, and data collection to the performance of EARP. As Wambua (2019) puts in M&E Practices and performance of Count funded education projects in Makueni County, the implementation of baseline survey by Development Committees to establish the baseline or status of the community prior to intervention when embarking on county-funded education projects in Makueni, and this had influenced positively the performance of the above mentioned projects. To add to the existing knowledge this study will investigate not only how the time of conducting the baseline survey, but also the plan design, baseline survey report contribute to the performance of projects especially energy projects.

Findings from different studies revealed that M&E information system contributed to the performance of different developments projects. According to Afomachukwu (2021) who carried a study on influence of Monitoring and evaluation System on the performance of RANA in Katsina State Nigeria, M&E information management systems aids the organization and storage of project data as well as aid the analysis and report generation. The study therefore recommends M&E information management system for all projects for easy storage, retrieval and analysis of project data. The current study shall add knowledge to the already existing through the identification of the contribution of a comprehensive and user-friendliness of M&E information System to the performance of energy projects especially in EARP Rwanda.

This study focus on M&E Practices in EARP Rwanda, a program that has inaugurated for promoting the electrification rate for Rwandan people, and Rwanda's energy sector. It seeks to promote the application of M&E practices during the implementation of Rwanda's energy projects and this may stimulate the eradication of the routine of cost and time overruns caused by delays occurred in most case of projects in Rwanda's energy sector, and then attain the high performance of Rwanda's energy projects.

## Conceptual Framework

This section explains the association of the variables to be analyzed throughout the study. M&E practices are referred to as the explanatory variable or independent variable, whereas the dependent or controlled variable is the performance of energy projects, lastly, government policy stands for the intervening variable.

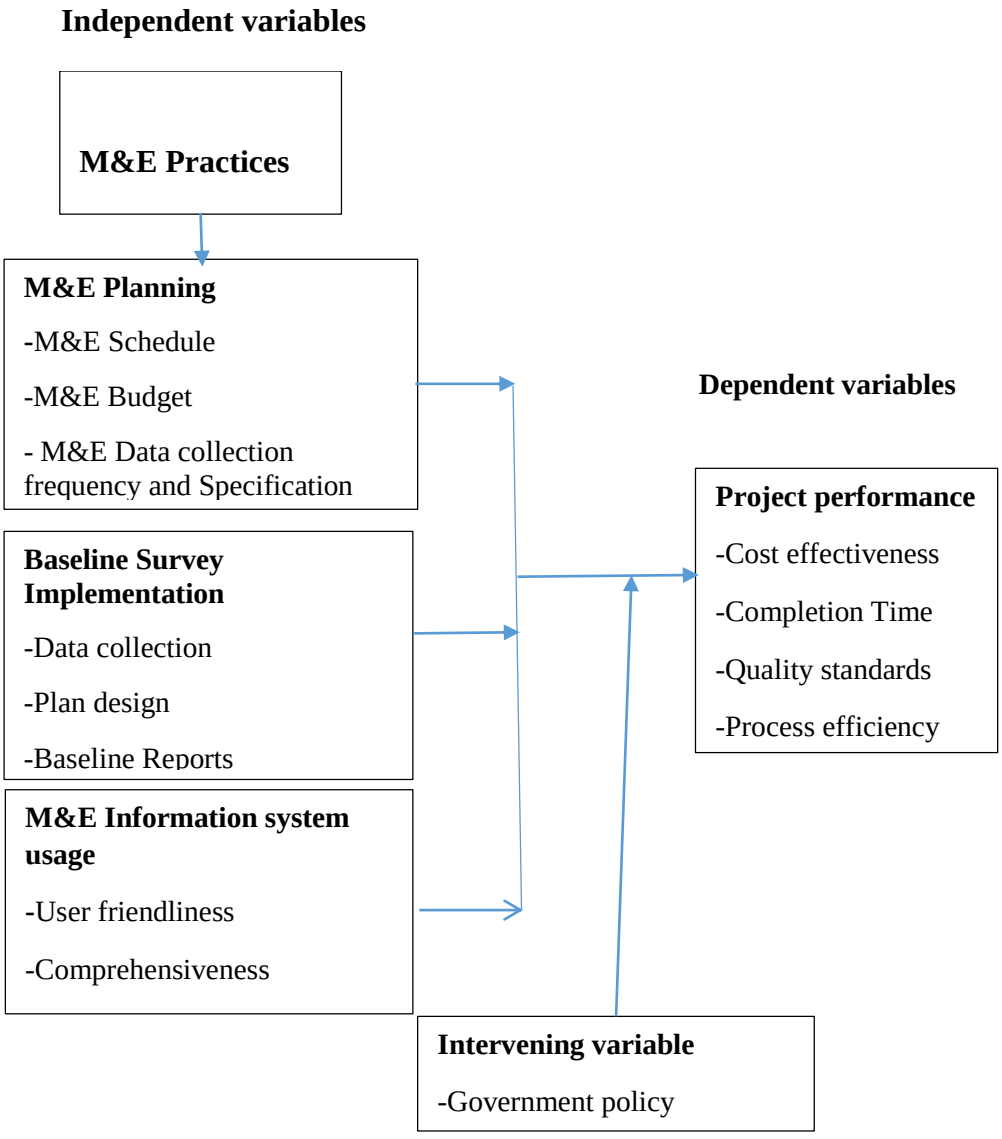


*Figure 2: Conceptual Framework*

*Source: Author (2024)*

The framework illustrates the association concerning M&E practices and project performance as intervened by government policies. The independent variables or M&E practices consist of planning for M&E (M&E budget, M&E schedule, M&E specification and frequency of data collection), baseline survey (data collection, plan design, baseline report, time) and information (user friendliness, comprehensiveness) which are supposed to influence the project performance as dependent variable respectively. The control variable is government policy.

## METHODOLOGY

The research was premised on descriptive survey research design, and it targeted 15 staff, (project managers, and project engineers) working in Project Management at the completed Electricity Access Rollout Program (EARP). A census sampling technique was used, the total population was considered as a sample since the number of the target population was limited. Qualitative and quantitative approaches were applied to gather data, through an interview guide and questionnaire, the researcher gathered primary data while secondary data were gathered from various official reports regarding EARP. After collecting data, the researcher used SPSS V.23 for their process and analysis. The content analysis techniques served to analyze data from interviews, open-ended questions, and reports. The frequencies, percentages, standard deviation, and means known as descriptive statistics helped the researcher in defining the data, Pearson correlational statistics were used to set up relationships concerning the variables and the multiple regression analysis helped to establish the significance levels. The research results were finally represented using graphs and tables.

## FINDINGS AND DISCUSSION

### M&E Planning and EARP Performance

The research tried to find how planning for M&E contributed to the EARP performance. The participants were requested to point out in a scale of 1 to 5, their agreement or disagreement level with various statements concerning Monitoring and Evaluation planning and EARP performance, where SA stands for frequency, % refers to percentage, SA refers to Strongly Agree; A stands for Agree; N stands for Neutral; D refers to Disagree; SD stands for Strongly Disagree.

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**Table 1: Findings on M&E Planning and EARP Performance**

| Statements | | SA | A | N | D | Mean | Std. |
|---|---|---|---|---|---|---|---|
| M&E Planning affects positively the performance of projects | **F** | 8 | 7 | 0 | 0 | 4.53 | 0.516 |
| | **%** | 53.3 | 46.7 | 0 | 0 | | |
| EARP project management team ensured M&E activities plan/ schedule for undertaken projects | **F** | 8 | 4 | 3 | 0 | 4.33 | 0.816 |
| | **%** | 53.3 | 26.7 | 20 | 0 | | |
| M&E activities schedule contributed significantly to EARP performance | **F** | 7 | 6 | 2 | 0 | 4.33 | 0.724 |
| | **%** | 46.7 | 40 | 13.3 | 0 | | |
| EARP provided adequate funds for M&E undertakings (5%-10% of the entire project budget) | **F** | 7 | 3 | 5 | 0 | 4.13 | 0.915 |
| | **%** | 46.7 | 20 | 33.3 | 0 | | |
| There was a distinct budget distribution for M&E in EARP | **F** | 5 | 8 | 1 | 1 | 4.13 | 0.834 |
| | **%** | 33.3 | 53.3 | 6.7 | 6.7 | | |
| EARP project management team ensured an appropriate delivery of means for M&E undertakings | **F** | 8 | 5 | 2 | 0 | 4.4 | 0.737 |
| | **%** | 53.3 | 33.3 | 13.3 | 0 | | |
| Planning for M&E budget allocation contributed significantly to EARP performance | **F** | 10 | 4 | 1 | 0 | 4.6 | 0.632 |
| | **%** | 66.7 | 26.7 | 6.7 | 0 | | |
| There was a plan that Specified how frequently M&E data were collected and it was carried out accordingly | **F** | 6 | 5 | 4 | 0 | 4.13 | 0.834 |
| | **%** | 40 | 33.3 | 26.7 | 0 | | |
| Planning for M&E data collection frequency contributed significantly to EARP performance | **F** | 8 | 3 | 3 | 1 | 4.2 | 1.014 |
| | **%** | 53.3 | 20 | 20 | 6.7 | | |
| **Overall average** | | | | | | **4.31** | **0.780** |

*Source: Primary Data (2024)*

Based on the findings in Table 1, different statements regarding Monitoring and evaluation planning were supported by most participants as discussed. 53.3 % of participants strongly agreed that M&E Planning positively affects the performance of projects, and 46.7% of respondents agreed, and the mean score was 4.53. For M&E schedule, a great number of respondents, 53.3% strongly agreed that EARP had a plan/schedule of M&E activities for its undertaken projects, 26.7 % of respondents agreed with this statement, and 20 % were neutral with a mean score of 4.33. Regarding the statement that the M&E activities schedule contributed significantly to EARP performance, 46.7% of sampled respondents strongly agreed, 40% agreed, and 13.3% were neutral with this statement. The mean score was 4.33.

Concerning the M&E budget, 46.7% of respondents strongly agreed that EARP had adequate funds for carrying out M&E undertakings (5%-10% of the entire project budget), 20 % agreed with this statement whereas 33.3% were neutral by a mean score of 4.13. % . Regarding

whether EARP had a distinct budget distribution for M&E, 33.3% of the respondents strongly agreed, 53.3% agreed, 6.7% of participants were neutral, and the mean score was 4.13. The idea that the EARP project management team ensured an appropriate delivery of means for M&E activities was supported by a great number of participants, 53.3% strongly agreed, 33.3% of participants agreed, and 13.3% were neutral, and the mean score was 4.4. Most respondents, 66.7% and 26.7% strongly agreed and agreed that M&E budget allocation contributed to EARP performance, the mean score was 4.6.

Furthermore, with a mean score of 4.13, 40% of participants strongly agreed and 33.3% agreed that the EARP M&E plan contained a specification and frequency of data collection which was respected by EARP M&E team while collecting data, 26.7 % were neutral to that statement. With a mean score of 4.2, most participants (53.3%), strongly agreed that M&E Specification and frequency of data collection contributed to EARP performance. 20% agreed with that statement, 20% were neutral with the mentioned statement whereas 6.7% of the sampled participants disagreed. The overall average for the contribution of M&E Planning to EARP performance was (Mean=4.31, STD=0.780).

**Baseline Surveys Implementation and Energy Project Performance**

A questionnaire was distributed to the participants to ascertain or determine their level of agreement or disagreement with the statements regarding baseline survey implementation contribution to the performance of EARP. With a Likert scale, various statements helped to explore different aspects of baseline surveys that show the potential for the performance projects, where SA refers to Strongly Agree; A stands for Agree; N stands for Neutral; D refers to Disagree; SD stands for Strongly Disagree. Results are presented as follows:

**Table 2: Baseline Surveys Implementation and the Performance of EARP**

| Statements | | SA | A | N | D | Mean | Std. |
|---|---|---|---|---|---|---|---|
| Baseline surveys were conducted before the commencement of the projects | F | 8 | 6 | 1 | 0 | 4.47 | 0.64 |
| | % | 53.3 | 40 | 6.7 | 0 | | |
| The project information quality is determined by the timing of the baseline survey | F | 7 | 4 | 4 | 0 | 4.2 | 0.862 |
| | % | 42.7 | 26.7 | 26.7 | 0 | | |
| EARP Project Management Team ensured a baseline survey implementation plan is designed | F | 8 | 3 | 4 | 0 | 4.27 | 0.884 |
| | % | 53.3 | 20 | 26.7 | 0 | | |
| The baseline surveys were carried out based on the intended plan | F | 6 | 5 | 4 | 0 | 4.13 | 0.834 |
| | % | 40 | 33.3 | 26.7 | 0 | | |
| Baseline surveys ensure that all possible project impacts are reflected in the assessment. | F | 10 | 3 | 2 | 0 | 4.53 | 0.743 |
| | % | 66.7 | 20 | 13.3 | 0 | | |
| There was adequate collection and data recording on project demands | F | 11 | 2 | 2 | 0 | 4.60 | 0.737 |
| | % | 73.3 | 13.3 | 13.3 | 0 | | |
| EARP Project Management Team ensured baseline reports were formulated, and the outcomes were distributed to stakeholders | F | 10 | 2 | 2 | 1 | 4.4 | 0.986 |
| | % | 66.7 | 13.3 | 13.3 | 6.7 | | |
| Baseline survey implementation influenced significantly EARP performance | F | 10 | 2 | 3 | 0 | 4.47 | 0.834 |
| | % | 66.7 | 13.3 | 20 | 0 | | |
| It is not possible to identify the project effects, with the absence of a baseline for the initial conditions on site | F | 7 | 5 | 3 | 0 | 4.27 | 0.799 |
| | % | 46.7 | 33.3 | 20 | 0 | | |
| **Overall average** | | | | | | **4.37** | **0.814** |

*Source: Primary Data (2024)*

Findings in Table 2 showed that participants supported the ideas in various statements related to baseline survey implementation and EARP performance. The majority of them (53.3% strongly agreed and 40% agreed) supported the idea that Baseline surveys were conducted before the commencement of a project, only 6.7% of participants were neutral to that statement, and the mean score was 4.47. A great number of respondents with a mean score of 4.2, 42.7%

strongly agreed, and 26.7% agreed that the project information quality depends on the timing of the baseline survey.

Respondents also supported the statements about the plan design. With a mean score of 4.13, most participants, 53.3% and 20% strongly agreed, and agreed that the EARP project team designed a plan for baseline survey implementation. For the next statement; the baseline surveys were carried out based on the intended plan, most participants, 40% strongly agreed, 33.3% agreed, and the mean score was 4.13. The majority of respondents, 66.7% strongly agreed and 20% agreed that Baseline surveys ensure that all possible project impacts are reflected in the assessment, the mean score was 4.53. With a mean score of 4.60, a great number of participants supported the statement that there was adequate collection and data recording on project demands, 73% strongly agreed, 13.3% agreed, and 13.3% were neutral.

66.7% of respondents strongly agreed, 13.3% agreed, 13.3% were neutral with the statement that the EARP project team formulated baseline reports and that the outcomes are distributed to stakeholders, 6.7 % disagreed with that statement and the mean score was 4.4. Furthermore, the majority of participants, 67.7% strongly agreed and 13.3% agreed that Baseline survey implementation significantly influenced EARP performance whereas 20% of participants were neutral. For the idea that it is not possible to identify the project effects, with the absence of a baseline, a great number of respondents, 46.7% and 33.3 % (80%) supported that statement, and 20% of participants were neutral. The overall average of how Baseline survey implementation contributed to the performance of EARP was (Mean=4.37, Std. =0.814).

**M&E Information System and EARP Performance**

In this research, the researcher tried to examine the contribution of the M&E information system to EARP performance. Participants were requested to show the degree of their agreement or disagreement with different statements relating to M&E Information System Usage and EARP Performance,where SA refers to Strongly Agree; A stands for Agree; N stands for Neutral; D refers to Disagree; SD stands for Strongly Disagree.

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**Table 3: M&E Information System Usage and EARP Performance**

| Statements | | SA | A | NS | D | SD | Mean | Std |
|---|---|---|---|---|---|---|---|---|
| M&E Information System positively affects the performance of projects | F | 12 | 2 | 1 | 0 | 0 | 4.73 | 0.594 |
| | % | 80 | 13.3 | 6.7 | | | | |
| EARP M&E Information System collected information relevant to the activities and objectives of the projects | F | 7 | 5 | 3 | 0 | 0 | 4.27 | 0.799 |
| | % | 46.7 | 33.3 | 20 | | 0 | | |
| All Monitoring and Evaluation activities were captured in the M&E Information System | F | 6 | 5 | 3 | 1 | 0 | 4 | 1.134 |
| | % | 40 | 33.3 | 20 | 6.7 | 0 | | |
| The M&E Information System used at EARP was friendly user and facilitated timely reporting | F | 4 | 5 | 4 | 1 | 1 | 3.67 | 1.175 |
| | % | 26.7 | 33.3 | 26.7 | 6.7 | 6.7 | | |
| User-friendliness of M&E Information System contributed significantly to EARP performance | F | 5 | 6 | 3 | 1 | 0 | 3.93 | 1.1 |
| | % | 33.3 | 40 | 20 | 6.7 | 0 | | |
| EARP used a comprehensive M&E Information System | F | 6 | 5 | 3 | 1 | 0 | 4 | 1.134 |
| | % | 40 | 33.3 | 20 | 6.7 | 0 | | |
| The comprehensiveness of M&E Information System contributed significantly to EARP performance | F | 8 | 4 | 2 | 1 | 0 | 4.2 | 1.146 |
| | % | 53.3 | 26.7 | 13.3 | 6.7 | 0 | | |
| EARP had a robust M&E Information System the use of which contributed to the overall performance of EARP | F | 8 | 2 | 4 | 1 | 0 | 4.07 | 1.223 |
| | % | 53.3 | 13.3 | 26.7 | 6.7 | 0 | | |
| **Overall average** | | | | | | | **4.11** | **1.038** |

*Source: Primary data (2024)*

Based on Table 3, the statement that M&E Information System positively affects project performance was supported by most respondents, with a mean score of 4.73; 80% strongly agreed, 13.3% agreed and only 6.7% were neutral. Many participants supported the idea that the EARP M&E Information System collected information relevant to the activities and objectives of the projects. 46.7% of participants strongly agreed, 33.3% agreed and 20% were neutral with a mean score of 4.27. Regarding whether All Monitoring and Evaluation activities were captured in the M&E Information System, with a mean score of 4.0, 40% of participants strongly agreed, 33.3% agreed, 20% were neutral, and 6.7 disagreed.

The respondent's responses about user-friendliness of M&E IS used in EARP: with a mean score of 3.67, 26.7% of participants strongly agreed, 33.3% agreed, 26.7% were neutral, 6.7% disagreed, and 6.7% strongly disagreed with the statement that the M&E information system adopted in EARP was user-friendly, and facilitated timely reporting. Additionally, with a mean score of 3.93 33.3% of participants strongly agreed, and 40% agreed that user-friendliness significantly influenced the performance of EARP projects, 20% of respondents were neutral while 6.7% disagreed.

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Apart from the user-friendliness respondents gave their position about the comprehensiveness of M&E Information system adopted by EARP. Most participants with a mean score of 4.0 supported the statement that EARP adopted Monitoring & Evaluation IS which was comprehensive. For the statement to check whether the comprehensiveness of M&E Information system contributed significantly to EARP performance, with a mean score of 4.2, 53.3% of participants strongly agreed, and 26.7% agreed, 13.3% were neutral, and 6.7% disagreed. Finally, with the mean score of 4.07, 53.3% of participants strongly agreed that EARP had a robust M&E information system which contributed to the overall performance of EARP, 26.7% were neutral, and 6.7% disagreed. According to the research results, the M&E information system usage contribution to the performance of EARP presented an overall average of (Mean=4.11, Std =1.038).

**Project Performance**

The respondents were asked to appreciate various project performance aspects such as completion within time, cost/budget effectiveness, quality standards, and process efficiency.

**Table 4: Project Performance**

| Statements | | SA | A | N | Mean | Std. |
|---|---|---|---|---|---|---|
| Completion on time | F | 7 | 7 | 1 | 4.33 | 0.816 |
| | % | 46.7 | 46.7 | 6.7 | | |
| Cost/Budget effectiveness | F | 10 | 5 | 0 | 4.67 | 0.488 |
| | % | 66.7 | 33.3 | 0 | | |
| Quality standards | F | 8 | 7 | 0 | 4.53 | 0.516 |
| | % | 53.3 | 46.7 | 0 | | |
| Process efficiency | F | 8 | 7 | 0 | 4.53 | 0.516 |
| | % | 53.3 | 46.7 | 0 | | |
| **Overall average** | | | | | **4.52** | **0.584** |

Note: F stands for frequency, % refers to percentage, SA: Strongly Agree; A. Agree; N: Neutral; D: Disagree; SD: Strongly Disagree

*Source: Primary Data (2024)*

From Table 4, in this research 46.7 % of total participants strongly agreed, and 46.7% agreed that projects under EARP were completed on time by a mean score of 4.33, 6.7% of participants were neutral to that statement. 66.7% of sampled respondents strongly agreed, and 33.3% agreed that EARP projects were completed within the cost, the mean score was 4.67. A great number of respondents; 53.3% strongly agreed and 46.7% agreed by a mean score of 4.53 that projects under EARP met quality standards on their completion time. Lastly, most participants supported the statement that there was process efficiency during the implementation of EARP projects; 53.3% strongly agreed, and 46.7% agreed with a mean score of 4.53. According to research findings, the statement concerning different aspects of performance for EARP projects had an overall average of (Mean= 4.52, SD=0.584).

**Relationship between Monitoring &Evaluation Practices and EARP Performance**

The last research objective was to assess the relationship between M&E Practices and energy project performance (EARP).

## Correlation Analysis

**Table 5: Relationship between M&E Practices and EARP Performance**

| Variables | | EARP Performance | M&E Planning | Baseline surveys implementation | M&E Information system usage |
|---|---|---|---|---|---|
| Project Performance | Pearson Correlation | 1 | | | |
| | Sig. (2-tailed) | | | | |
| M&E Planning | Pearson Correlation | .632* | 1 | | |
| | Sig. (2-tailed) | .011 | | | |
| Baseline survey Implementation | Pearson Correlation | .832** | .687** | 1 | |
| | Sig. (2-tailed) | .000 | .005 | | |
| M&E Information System Usage | Pearson Correlation | .170 | .434 | .328 | 1 |
| | Sig. (2-tailed) | .544 | .106 | .232 | |

*Source: Primary Data (2024)*

Findings from Table 5 indicated that M&E planning and EARP performance were positively correlated since the Pearson coefficient was r=0.632, and the p-value=0.01<0.05 the significance level. For Baseline surveys implementation and EARP performance it was revealed that they were strongly and positively correlated as the correlation coefficient was r=0.832, p-value=0.000 <0.05. Lastly, For M&E information system and EARP performance the Pearson coefficient was r=0.170, and p-value p=0.544>0.05. As the p- value is greater than significance level, it implies that the two variables were not correlated. Thus the M&E information system usage had no significant relationship with the performance of EARP.

## Regression Analysis

This was performed to assess the degree of the statistical significance effect of the practices of M&E; Planning for M&E, baseline survey implementation, and M&E information system usage to the EARP performance.

**Table 6: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .845[a] | .713 | .635 | .26440 |

*Source: Primary Data*

Findings from Table 6, showed a multiple regression coefficient of 0.845 which implies a strong relationship between variables. The $R^2$ was 0.713 indicating that 71.3% of change in EARP performance was explained by the change in M&E Planning, baseline survey implementation, M&E information system usage.

**Table 7: Analysis of Variance**

**ANOVA[a]**

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 1.914 | 3 | .638 | 9.128 | .003[b] |
| Residual | .769 | 11 | .070 | | |
| **Total** | **2.683** | **14** | | | |

a. Dependent Variable: Project Performance

b. Predictors: (Constant), M&E Information System Usage, Baseline survey Implementation, M&E Planning

*Source: Primary Data*

Findings from Table 7 indicate that the combined independent variables M&E Planning, baseline survey implementation, M&E information system usage significantly affected EARP performance, since F=9.128 with p-value=0.003<0.05.

**Table 8: Regression Coefficients**

| Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. |
| (Constant) | 1.836 | .609 | | 3.015 | .012 |
| M&E Planning | .228 | .262 | .268 | .870 | .043 |
| Baseline survey Implementation | .437 | .161 | .667 | 2.714 | .020 |
| M&E Information System Usage | -.054 | .160 | -.077 | -.335 | .744 |

a. Dependent Variable: Project Performance

*Source: Primary Data*

From the regression analysis results the following regression model equation:

$Y= \alpha+ \beta_1X_1+ \beta_2X_2+ \beta_3X_3$,

Where y=dependent variable=EARP performance, α=constant, β= coefficients, $X_1$=M&E planning, $X_2$=Baseline Survey implementation, $X_3$= M&E Information System usage. If we replace the coefficients by the value in the regression table the equation will then become: $Y=1.836+0.228X_1+0.437X_2-0.054X_3$

Y=1.836+0.228(M&E Planning) +0.437(Baseline Survey implementation)-0.054(M&E Information System usage).

This equation implies that M&E Planning, Baseline Survey implementation, M&E Information System usage held to a constant 0, the EARP performance would be at 1.836. Every additional unit in M&E Planning will increase the performance of EARP by a factor of 0.228(22.8%). Therefore, there was a statistically significant contribution of M&E planning to EARP performance with p-value =0.04<0.05. In the same way for M&E Planning, the importance of M&E schedule and M&E budget in project performance was noted by many other researchers in their findings: Njeri &Omwenga (2019) studied the M&E practice's influence on sustainable projects and recognized the importance of an M&E schedule, they highlighted the need to develop a schedule of M&E undertakings during M&E planning. According to the findings of

Mwangi & Molonge (2019) on the M&E practices' effects on the performance of projects–funded by the World Bank in Nairobi, they established that the frequent data collection practice enhances M&E reporting and provides necessary information for the performance of projects.

Every additional unit in Baseline Survey implementation would increase the performance of EARP by a factor of 0.437(43.7%).Therefore there was a statistical significant contribution of Baseline Survey implementation to EARP performance. Similarly, findings from a study conducted by Wambua (2019) on M&E Practices and performance of Count funded education projects in Makueni county revealed a positive effect of baseline survey on project management and its assistance to bring project to the right beneficiaries, a unit increase in the usage of baseline survey lead to 26.7% increase in performance of county funded education projects in Makueni County.

For every additional unit in M&E Information System usage would decrease the performance of EARP by a factor of -0.054 Since p-value =0.7>0.05 there is no statistical negative significant contribution of M&E Information System to EARP performance. From this research findings, some participants were not sure or lacked know if the M&E information system used in EARP was user-friendly and comprehensive or if the user-friendliness or the comprehensiveness nature of the system contributed to the EARP performance, other disagreed or strongly disagreed with the statements. It seemed that they had little information about the MIS used by EARP which has been implemented from 2017. This information system was launched too late compared to the commencement of EARP in March 2009, therefore, its contribution to EARP performance was not significant to be identified by all the respondents. Kahura (2013) in his study on MIS in construction projects in Nairobi, Kenya highlighted that to be effective an Information System must be understandable to the staff at all stage, it should be user-friendliness and comprehensive. Nevertheless, other researchers found that M&E information systems positively related to project performance. Among them Afomachukwu (2021) in his research to assess the influence of Monitoring and evaluation System on the performance the Reading and Numeracy Activities (RANA) in Katsina State Nigeria, found that M&E information management systems aided the organization and storage of project data as well as, the analysis and report generation. The study therefore recommended M&E information management system for all projects for easy storage, retrieval and analysis of project data.

## CONCLUSION AND RECOMMENDATIONS

### Conclusion

The general research objective was to assess the relationship that the practices of M&E had with the performance of EARP, the dependent variable. It specifically tried to find how M&E planning, baseline survey implementation, and Monitoring &Evaluation Information System usage contributed to the EARP performance, and to find out the relationship as regards the practices of M&E and the energy projects performance using a case of Electricity Access Rollout Programme Rwanda (EARP). Lastly comes suggestions for forthcoming research.

Monitoring &Evaluation Planning where a schedule for M&E activities, a specification of data and how they will be frequently collected, a sufficient budget reserved to execute the activities of Monitoring &Evaluation (5%-10% of the entire project), the distinct distribution of the M&E budget are present is a critical value that can lead to effective M&E, thus to the expected project performance. Planning the time for M&E, sharing responsibility, and budget for performing M&E activities, the data to be collected, when and how frequently, and implementing M&E

activities according to the plan will enhance M&E effectiveness. The lack of M&E resources may stop or delay M&E activities, and in that case, the milestone will not be respected which causes project time and/or cost overrun.

When baseline surveys are conducted at the right time according to the established plan, and all project impacts are reflected in the assessment, the baseline survey reports are availed so that the information can be used to set up the project framework, it takes an important position in the implementation of the project as it is considered as a point of reference for all upcoming undertakings. From the baseline survey information, the project's logical framework can be established with all indicators from which the project performance can be assessed. The baseline survey implementation is taken as a crucial practice in project management, it is considered as a point of reference for all upcoming project undertakings.

The use Information System while handling M&E activities is crucial; it is a tool for optimizing resources, speeding up processes, obtaining quality data, and integrating the systems of other cooperating players. However, the user-friendliness and the comprehensiveness of the Monitoring &Evaluation information system are among the critical determinants of an effective M&E.

As concluded above it is necessary to mention the influence of these three practices of M&E on the performance of the projects, when they are robust and used effectively. Having a robust M&E information system is important as it helps in tracking progress, identify deviations from the plan, encourage the transparency, accountability and continuous learning. The need of effective baseline surveys (conducted before the commencement of the project not during project implementation,) cannot be ignored as they play a great role in efficient resource allocation, in eliminating unnecessary processes ,in establishing indicators used for assessment of project performance. The failure or lack of baseline surveys may lead to the failure of the project. Planning for M&E is as important as carrying baseline survey in affecting the performance of energy projects as it governs the process of assessing and reporting progress toward achieving project outputs and outcomes and helps identify what evaluation questions will be addressed through the evaluation. M&E plan describes the indicators, who will be responsible for collecting them, what forms and tools will be used, and how the data will flow within the organization, program or projects. Therefore, for M&E to be an effective Management tool that would play a great role not only in the performance of energy projects but also projects in general these three practices should be applied in during the implementation for any project.

**Recommendations**

From the research findings, the next recommendations were formulated:

- As EARP is completed, EDCL should enhance the practices of Monitoring and Evaluation for other energy programs or projects, especially M&E information System usage to facilitate activities and achieve the assigned objectives. The user-friendliness and comprehensiveness of the system should be rigorous.

- Project Management teams in private or public institutions should always have a plan for M&E and refer to that plan while performing the activities of Monitoring &Evaluation. The plan should specify the kind of data to be collected, when they will be collected (weekly, monthly or quarterly), staff responsible, methods to be used, and at the same time the budget to be attributed to M&E activities; at least 5% of the entire project budget should be allocated to M&E various activities to ensure the performance of the project.
- For either private or public institutions, baseline surveys ought to be implemented at the right time, before the commencement of projects, and in line with project objectives. There should be a baseline survey report and outcomes distributed to stakeholders.
- To properly carry out M&E activities, the Project managers for private or public institutions should adopt a robust, comprehensive, and user-friendly information system. Project Manager should regularly organize M&E training concerning M&E especially the information System used in M&E: the staff both in field and on field ought to have in depth understanding on the role of the information system, the way to handle different activities using the system. This makes the system easy to use for everybody, reduces the time taken by the personnel while collecting or analyzing data manually which consequently facilitate M&E activities.

**Suggestions for Further Studies**

Future research can be done on other components of the project life cycle like project implementation in EARP, and similar studies can be carried out on different projects implemented by EARP or the new energy programs or projects under EDCL.

Studies can also be done on other M&E practices that influenced the performance of EARP.

Since EARP was a program for electricity projects, future research can be carried out on further types of energy sector projects to assess the relationship with various M&E practices and related performance.

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